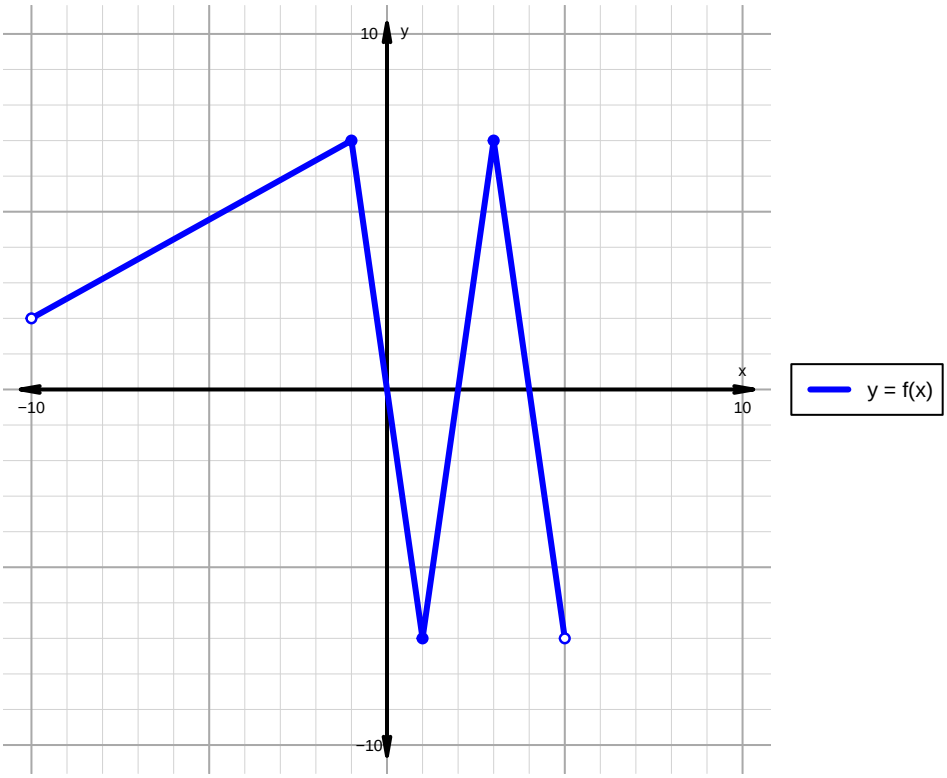
Name: Date:

Intervals, Transformations, and Slope Solution (version 96)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10, 0) \cup (2, 4)$
Negative	$(0, 2) \cup (4, 5)$
Increasing	$(-10, -1) \cup (1, 3)$
Decreasing	$(-1, 1) \cup (3, 5)$
Domain	$(-10, 5)$
Range	$(-7, 7)$

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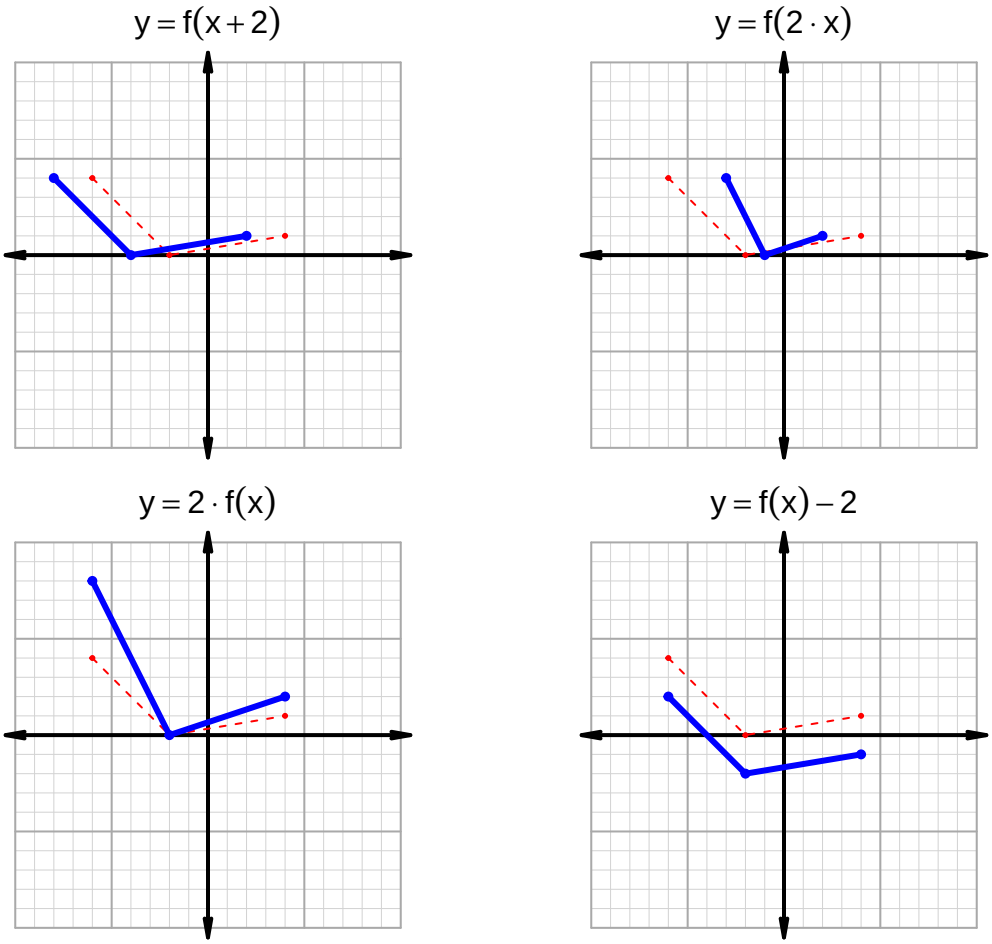
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 56$ and $x_2 = 77$. Express your answer as a reduced fraction.

x	$g(x)$
43	77
56	43
77	78
78	56

$\frac{g(77)-g(56)}{77-56} = \frac{78-43}{77-56} = \frac{35}{21}$

The greatest common factor of 35 and 21 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{5}{3}$$